US009173484B2

(12) **United States Patent**
Miller et al.

(10) **Patent No.: US 9,173,484 B2**
(45) **Date of Patent: Nov. 3, 2015**

(54) **READY-TO-ASSEMBLE TABLE**

(71) Applicant: **Sauder Woodworking**, Archbold, OH (US)

(72) Inventors: **Mark V. Miller**, Archbold, OH (US); **Douglas P. Krieger**, Archbold, OH (US)

(73) Assignee: **Sauder Woodworking**, Archbold, OH (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **14/201,190**

(22) Filed: **Mar. 7, 2014**

(65) **Prior Publication Data**

US 2014/0283716 A1 Sep. 25, 2014

Related U.S. Application Data

(60) Provisional application No. 61/803,921, filed on Mar. 21, 2013.

(51) **Int. Cl.**
A47B 3/00 (2006.01)
A47B 13/08 (2006.01)
A47B 83/04 (2006.01)

(52) **U.S. Cl.**
CPC ***A47B 13/088*** (2013.01); *A47B 83/045* (2013.01)

(58) **Field of Classification Search**
CPC A47B 3/10
USPC 108/34, 38, 157.1, 153.1, 156, 157.16, 108/157.18, 158.12
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

426,231	A *	4/1890	Bosworth	108/158.12
873,855	A *	12/1907	Goldin	108/38
1,060,295	A *	4/1913	Stiles	108/34
1,533,494	A *	4/1925	Billburg	108/34
1,626,293	A *	4/1927	Mason	108/34
D142,262	S *	8/1945	Paden	108/38
2,447,141	A *	8/1948	Shillady	108/34
2,652,300	A *	9/1953	Graber et al.	108/34
2,677,470	A *	5/1954	Catalano	108/34
2,686,096	A *	8/1954	Barnes, Jr.	108/158.12
2,805,707	A *	9/1957	Schoeppner	108/38
4,231,453	A *	11/1980	Minor	190/11
6,032,590	A *	3/2000	Chen	108/158.12

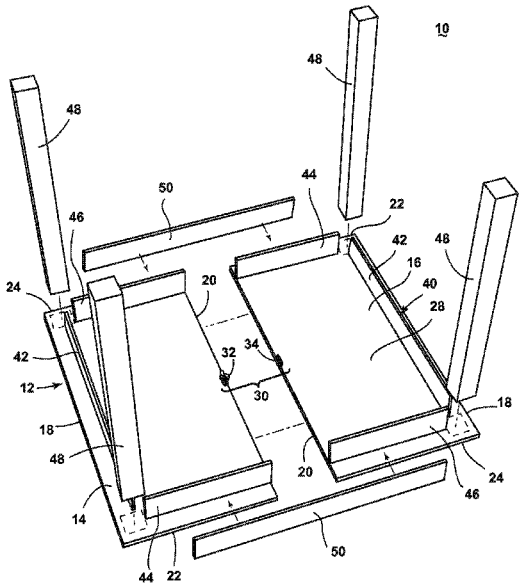
* cited by examiner

Primary Examiner — Jose V Chen
(74) *Attorney, Agent, or Firm* — McGarry Bair PC

(57) **ABSTRACT**

A ready-to-assemble table comprises a split tabletop having separable portions, an apron depending from the tabletop portions, and legs mountable to the tabletop portions to support the tabletop on a surface. When the table is disassembled, the tabletop portions with their respective aprons can be stacked and arranged so that the aprons space the tabletop portions to form a cavity therebetween sized to receive the legs for packaging of the table. Additionally, a partial table can be constructed employing one of the tabletop portions for retail display.

16 Claims, 6 Drawing Sheets



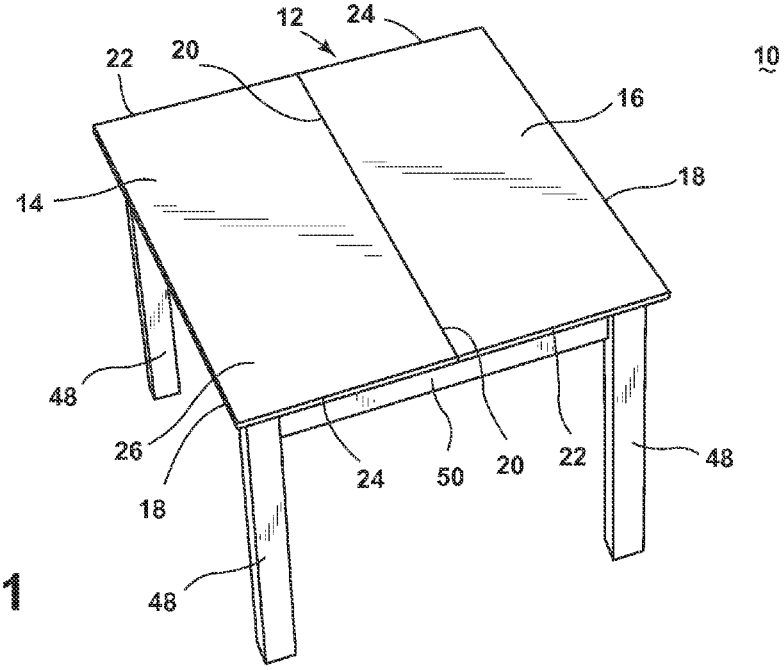

12
24
22
20
10
16
18
14
48
26
18
24
50
20
22
48
48

FIG. 1

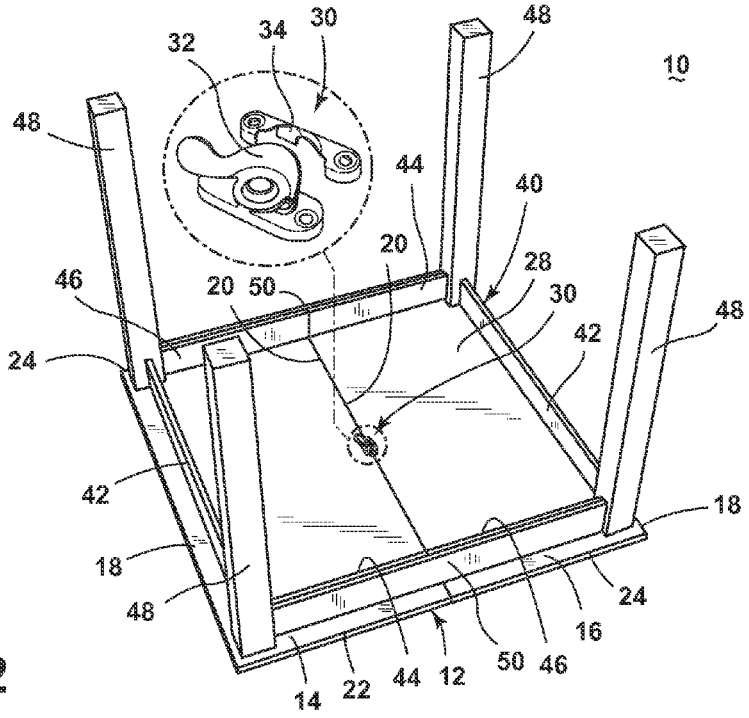

32
34
30
48
10
48
44
40
20
28
46
20
50
30
48
42
24
42
18
18
48
24
16
50
46
14
22
44
12

FIG. 2

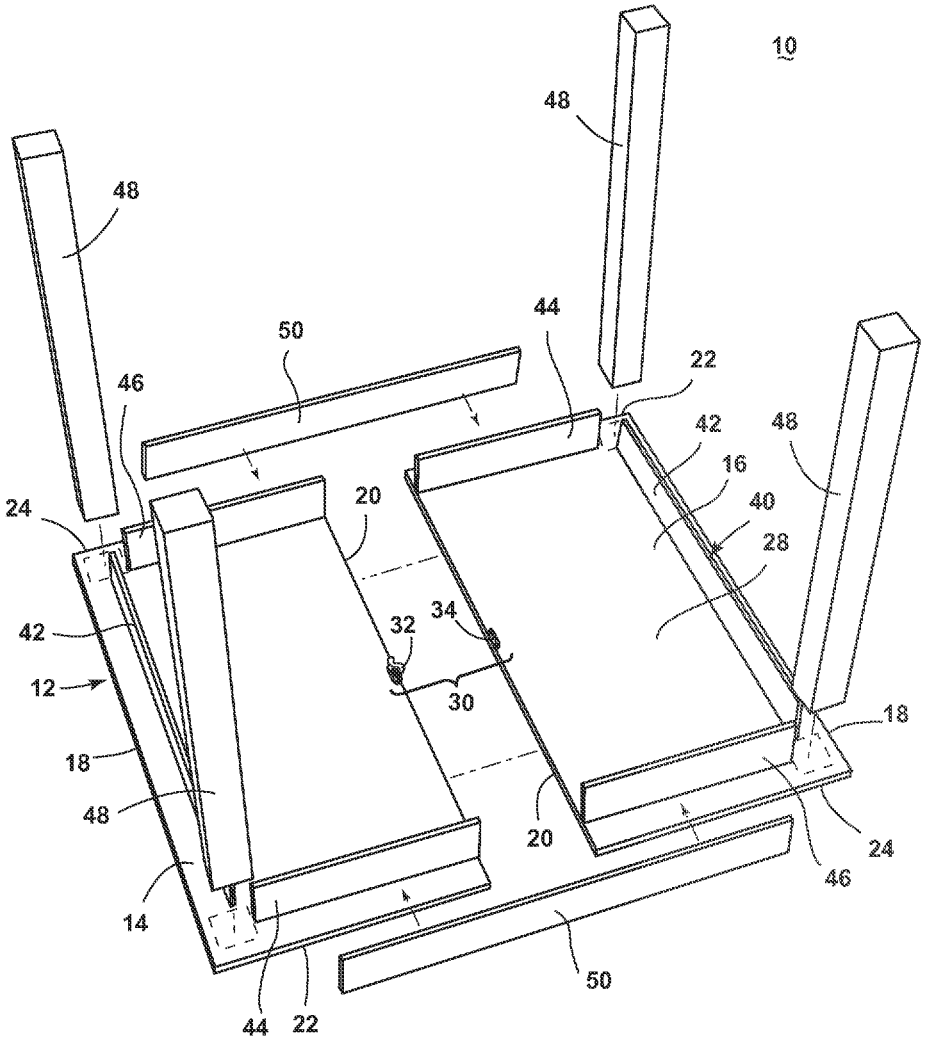

10
48
48
50
44
22
46
42
48
16
20
40
24
28
42
32
34
12
30
18
18
48
20
24
46
14
50
44
22

FIG. 3

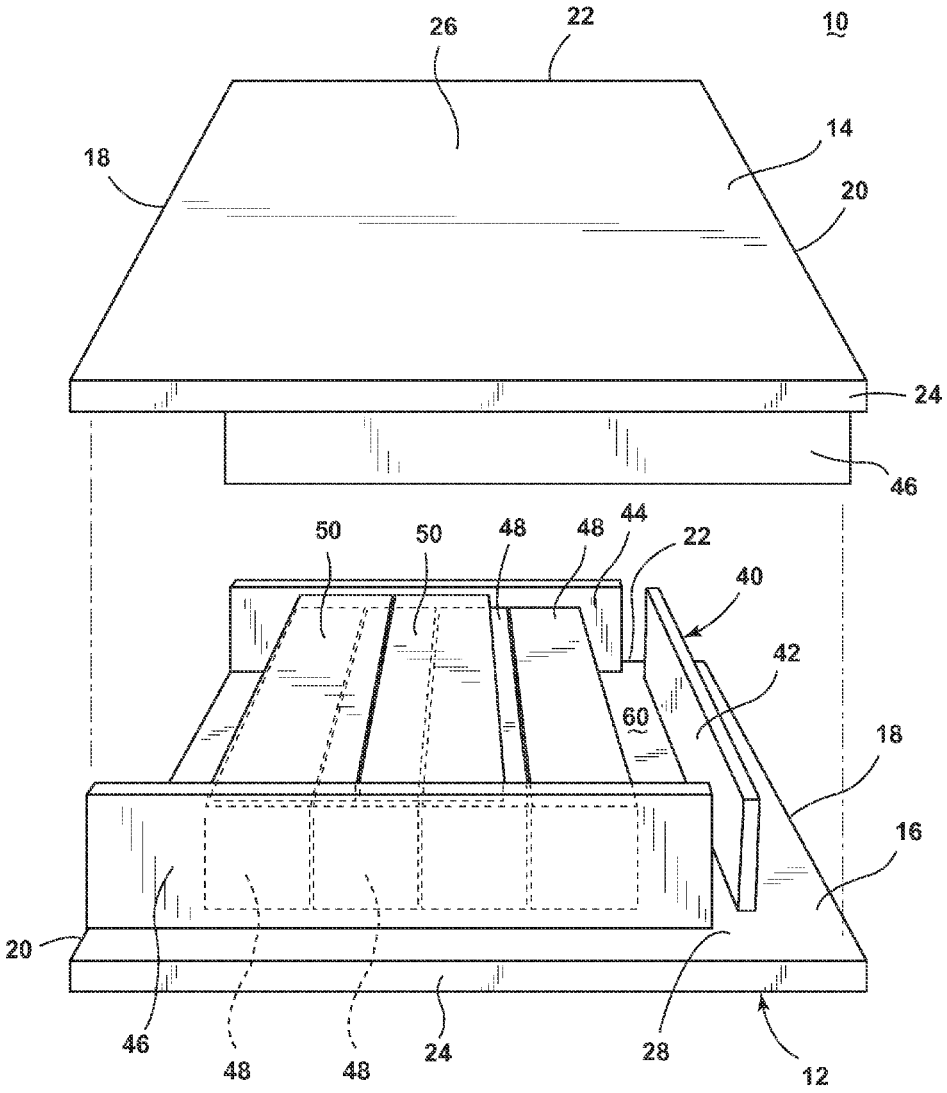

26
22
10
14
18
20
24
46
50
50
48
48
44
22
40
42
60
18
16
20
46
48
48
24
28
12

FIG. 4

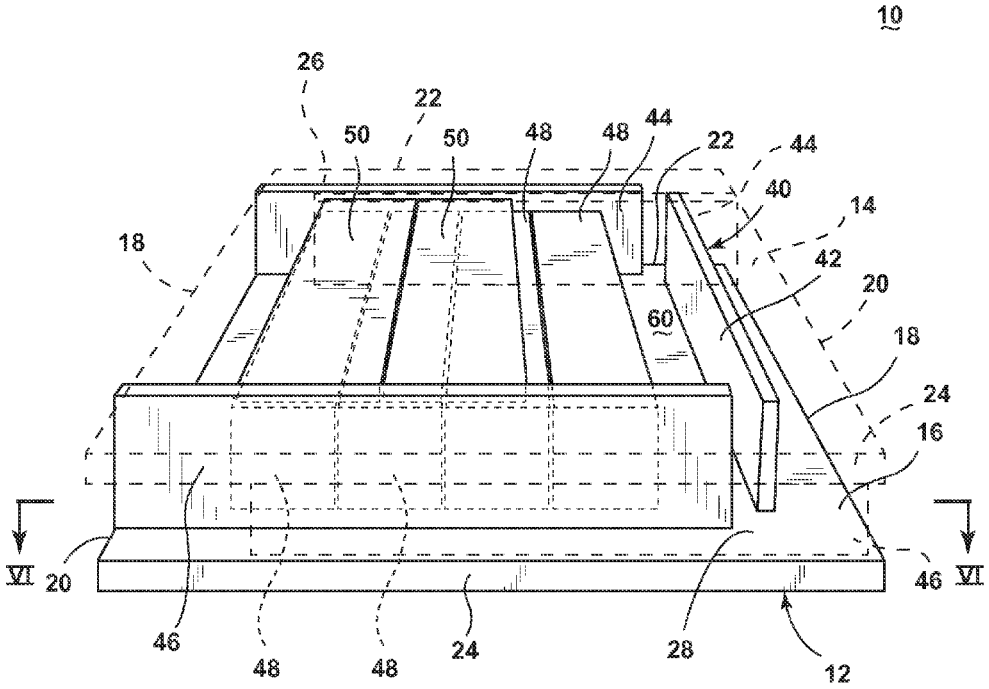

10
26
22
50
50
48
48
44
22
44
40
14
18
42
20
60
18
24
16
VI
20
46
VI
46
48
48
24
28
12

FIG. 5

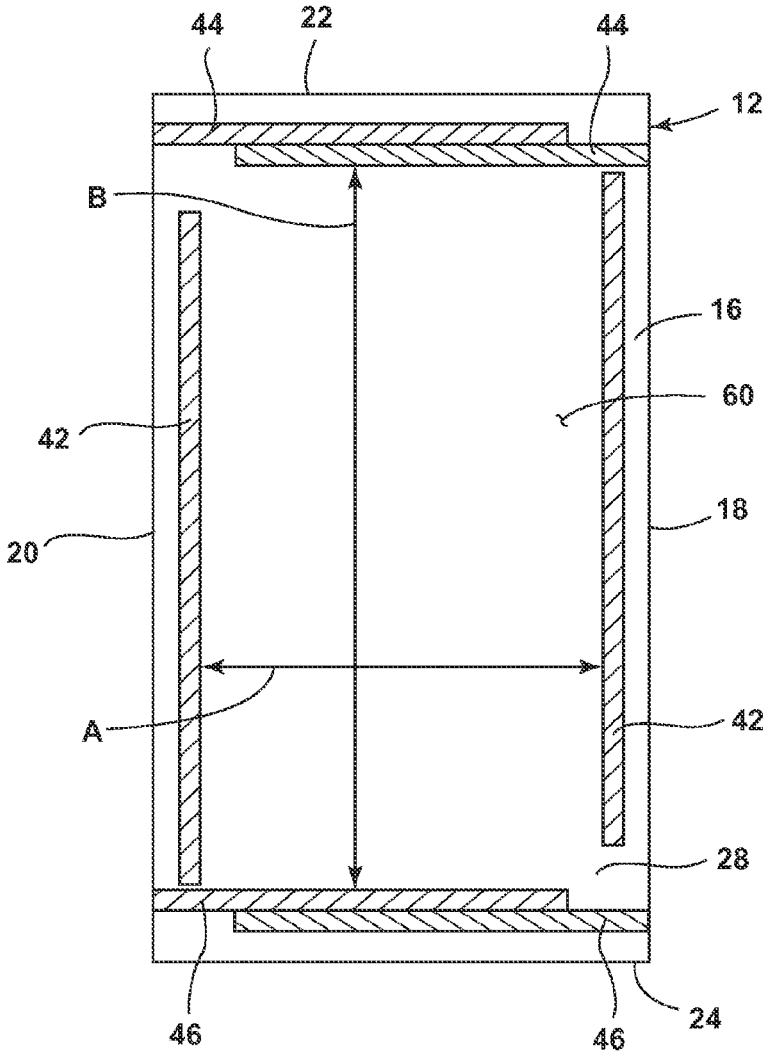


FIG. 6

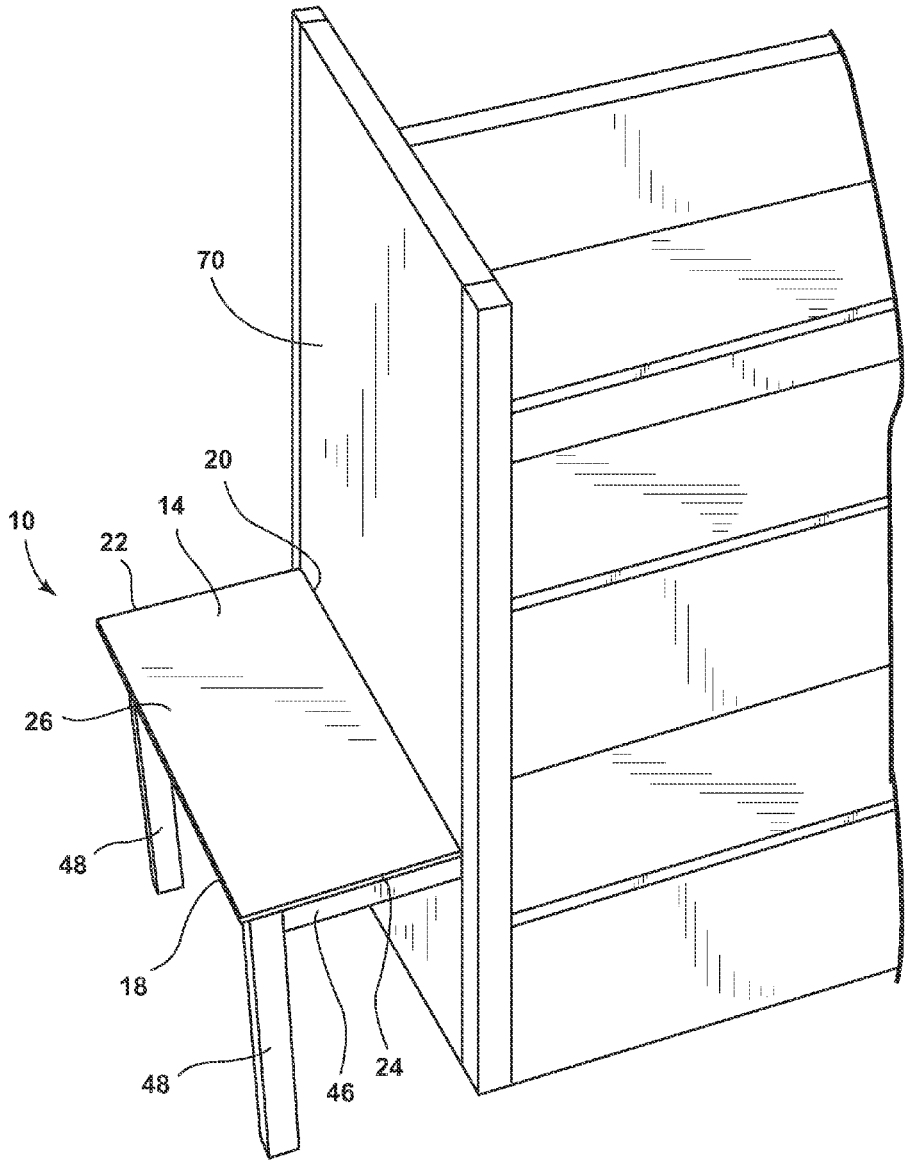


FIG. 7

READY-TO-ASSEMBLE TABLE

CROSS REFERENCE TO RELATED APPLICATIONS

This application claims priority to and claims the full benefits of U.S. Application Ser. No. 61/803,921 filed Mar. 21, 2013, entitled Ready-to-Assemble Table.

BACKGROUND

Ready-to-assembly (RTA) furniture, also known as knock-down furniture or flat pack furniture, is a type of furniture sold in multiple pieces requiring assembly. The pieces are packed in one or more boxes with assembly instructions and hardware. RTA furniture is popular among consumers wishing to save money by assembling the product on their own and foregoing expensive furniture delivery service. In addition to economic benefits, RTA furniture is often easy to assemble with the use of simple tools.

SUMMARY

A ready-to-assemble table according to one embodiment of the invention comprises a split tabletop having first and second separable portions, an apron depending from each of the first and second tabletop portions, and legs mountable to the first and second tabletop portions to support the tabletop on a surface. When the table is in a disassembled condition, the separated first and second tabletop portions with their respective aprons can be stacked with one of the first and second tabletop portions inverted so that the aprons space the first and second tabletop portions to form a cavity therebetween sized to receive the legs for packaging of the table.

A table according to another embodiment of the invention comprises a first partial table comprising a first tabletop and a pair of legs mounted to the first tabletop, a second partial table separate from the first partial table and comprising a second tabletop and a pair of legs mounted to the second tabletop, and a fastener mounted to the first and second tabletops and selectively actuable to couple the first and second tabletops to form an assembled full table.

BRIEF DESCRIPTION OF THE DRAWINGS

In the drawings:

FIG. **1** is a perspective view of a ready-to-assemble table according to one embodiment of the invention having a split tabletop.

FIG. **2** is a perspective view of the table of FIG. **1** in an inverted position.

FIG. **3** is an exploded view of the table of FIG. **1** in the inverted position of FIG. **2**.

FIG. **4** is a perspective view of the table of FIG. **1** in a disassembled and packed condition with a first portion of the split tabletop shown as exploded from the rest of the table components.

FIG. **5** is a perspective view of the table of FIG. **1** in the disassembled and packed condition with the first portion of the split tabletop shown in phantom.

FIG. **6** is a sectional view taken along line VI-VI of FIG. **5** with components removed to better illustrate a cavity for holding them.

FIG. **7** is a perspective view of a portion of the table assembled and arranged on a display.

DESCRIPTION OF EMBODIMENTS OF THE INVENTION

The invention relates to a table supplied to a user in a disassembled condition for assembly by the user, a so-called ready-to-assemble or knock-down table. In general, ready-to-assemble furniture comprises several components that are packaged into a container individually (i.e., not assembled to any other components of the table), as subassemblies (i.e., two or more components pre-assembled), or a combination thereof.

Referring to FIG. **1**, a table **10** according to one embodiment of the invention includes a tabletop **12** split into multiple portions, in this case a first portion **14** and a second portion **16**. While the present embodiment includes two portions forming the split tabletop **12**, the tabletop **12** can comprise any suitable number of portions. Each of the first and second portions **14**, **16** of the exemplary tabletop **12** of FIG. **1** has a perimeter defined by an end edge **18**, a mating edge **20** generally parallel to and opposite the end edge **18**, and a pair of opposing side edges **22**, **24** joining the end edge **18** and the mating edge **20**. The side edges **22**, **24** are approximately half the length of the end and mating edges **18**, **20** such that the tabletop **12** has a generally square configuration when the table **10** is assembled with the generally rectangular first and second portions **14**, **16** in abutting contact along the respective mating edges **20**. The tabletop **12**, however, may have any suitable shape, including shapes with arcuate and irregular edges.

FIG. **1** shows an upper side **26** of the tabletop **12**, while a lower side **28** of the tabletop **12** can be seen in FIG. **2** with the table **10** inverted. A fastener **30** mounted to the lower side **28** of the first and second tabletop portions **14**, **16** along the mating edges **20** and actuable between fastened and unfastened states selectively couples the first and second portions **14**, **16**. The fastener **30** can be any suitable mechanical fastener, and the fastener of the illustrated embodiment comprises a latch **32** on the first portion **14** and a corresponding keeper **34** on the second portion **16**. FIG. **2** shows the fastener **30** in the fastened state with the table **10** assembled, and FIG. **3** depicts the fastener in the unfastened state.

FIG. **3** is an exploded view of the table **10** and also illustrates the individual components and sub-assemblies of the table **10** in the disassembled condition. In addition to the tabletop **12**, the table **10** comprises an apron **40** depending from the lower side of the tabletop **10**. While the apron **40** can have any suitable configuration, the apron **40** of the exemplary embodiment includes, on each of the first and second portions **14**, **16**, three separate panels, an end panel **42** and a pair of side panels **44**, **46** adjacent to and spaced from the end edge **18** and the side edges **22**, **24**, respectively. Further, the end panel **42** and the side panels **44**, **46** are spaced from each other near the corners of the tabletop **12** to accommodate supporting legs **48**. The other ends of the side panels **44**, **46** extend to the mating edge **20** so that the panels **44**, **46** on the first portion **14** abut the complementary panels **46**, **44** on the second portion **16** in a generally coplanar relationship when the table **10** is assembled. The apron **40** can be preassembled to the first and second tabletop portions **14**, **16** such that the tabletop **12** and the apron **40** are supplied as sub-assemblies; in the illustrated embodiment, the first tabletop portion **14** and its apron panels **42**, **44**, **46** form one subassembly, and the second tabletop portion **16** and its apron panels **42**, **44**, **46** form another subassembly.

Optionally, the table **10** can include a pair of auxiliary aprons **50** mountable to the abutting side panels **44**, **46** when the table **10** is assembled. The auxiliary apron **50** overlies the abutting side panels **44**, **46** to conceal the seam therebetween

and also provides structural rigidity to the table **10** when assembled. The auxiliary apron **50** can have any suitable configuration and is shown as having the same size and shape of the underlying abutting side panels **44**, **46**.

As previously mentioned, legs **48** support the tabletop **12** when the table **10** is in the assembled condition. The legs **48** are mountable to the lower side **28** of the tabletop **12** in the spaces between the end panel **42** and adjacent side panels **44**, **46** of the apron **40**. The legs **48**, while shown as having a generally square cross-section throughout the entire length of the leg **48**, may have any suitable configuration, including legs having arcuate, irregular, and varied cross-sections. Further, the table **10** can have any suitable number of legs **48**, with the current embodiment having four of the legs **48** for exemplary purposes.

The table **10** in the disassembled condition can be compactly packaged. For example, the table **10** when disassembled includes the first tabletop portion **14** and its apron **40** as a first subassembly, the second tabletop portion **16** and its apron as a second subassembly, the legs **48** as individual components, the auxiliary aprons **50** as individual components, and the fastener **30** either mounted to the first and second tabletop portions **14**, **16** or provided in a hardware package. These subassemblies and individual components can be arranged relative to one another in a packaged condition to minimize the volume of the disassembled table **10**. As shown in FIG. **4**, the first subassembly and the second subassembly are vertically stacked with the first subassembly inverted and laterally shifted or offset relative to the second subassembly. FIG. **4** illustrates the first subassembly as exploded from the second subassembly, and FIG. **5** provides a similar illustration with the first subassembly in phantom. The end edge **18** of the first tabletop portion **14** generally vertically aligns with the mating edge **20** of the second tabletop portion **16** and vice-versa, the side edges **22** generally align vertically with each other with an offset due to the offset of the first subassembly, and the side edges **24** generally align vertically with each other with an offset due to the offset of the first subassembly. The sectional view of FIG. **6** best illustrates the orientation of the apron panels **42**, **44**, **46** for the first and second tabletop portions **14**, **16** in the stacked configuration. The end panels **42** oppose one another along a first dimension A while the side panel **44** of the first tabletop portion **14** and the side panel **46** of the second tabletop portion **16** oppose one another along a second dimension B. The space between the end panels **42** and the side panels **44**, **46** forms a cavity **60** sized to receive other individual components of the table **10**, namely the legs **48** and the auxiliary aprons **50** of the exemplary embodiment and, optionally, a hardware package, tools, and instructions (not shown). In particular, the cavity **60** is defined by the distance between the end panels **42** in the first dimension A, the distance between the side panels **44**, **46** in the second dimensions A, B, and the distance between the first and second tabletop portions **14**, **16** in the third dimension. The legs **48** and the auxiliary aprons **50** are not illustrated in FIG. **6** to better illustrate the cavity **60**. Alternatively, the subassemblies could be offset in the opposite lateral direction such that the cavity **60** would be defined between the side panel **44** of the second tabletop portion **16** and the side panel **46** of the first tabletop portion **14** in the second dimension B. With the disassembled table **10** arranged in the packaged condition, the table **10** is compact and relatively easy to box and handle, both by shipping from the manufacturer to a store and by a consumer purchasing the table **10** in a store.

The table **10** can be assembled in any suitable order, such as by coupling the first and second tabletop portions **14**, **16** with the fastener **30**, mounting the legs **48** to the first and second tabletop portions **14**, **16**, and affixing the auxiliary aprons **50**. Alternatively, the assembly may begin with building essentially two separate and independent partial tables by mounting the legs **48** to the separate first and second tabletop portions **14**, **16** with their aprons **40**, followed by coupling the two partial tables by the fastener **30**, and finally affixing the auxiliary aprons **50**. The partial table, as shown in FIG. **7**, can advantageously be mounted to a standard store gondola **70**, such as at the endcap of a gondola, along the mating edge **20** for display.

The table **10** can be modified in any suitable decorative or structural manner. For example, the table **10** may include tabletop leaves or panels between the first and second tabletop portions **14**, **16** to increase the size of the tabletop **12**. Further, the apron **40** may be configured to define a different size and/or shape cavity **60** to accommodate a different number or type of individual components.

While the invention has been specifically described in connection with certain specific embodiments thereof, it is to be understood that this is by way of illustration and not of limitation, and the scope of the appended claims should be construed as broadly as the prior art will permit.

What is claimed is:

1. A ready-to-assemble table comprising:

a split tabletop having first and second separable portions;

an apron depending from each of the first and second separable portions comprising an end panel and a pair of side panels spaced from each other by spaces near corners of the separable portions; and

legs to support each separable portion on a surface;

wherein when the table is in a disassembled condition, the first and second separable portions with their respective aprons can be stacked with one of the first and second separable portions inverted so that the aprons space the first and second separable portions from each other, and the pair of side panels on each separable portion extend through the spaces to be adjacent each other with the aprons offset and the first and second separable portions aligned to form a cavity sized to receive the legs for packaging of the table in a compact assembly.

2. The ready-to-assemble table of claim **1** wherein each of the first and second separable portions comprises a mating edge, an end edge opposite the mating edge, and opposite side edges joining the mating and end edges, and the panels depend from the separable portion adjacent the end edge and the opposite side edges.

3. The ready-to-assemble table of claim **2** wherein when the table is in the disassembled condition with the separable portions stacked, the first and second separable portions are oriented with the mating edge of one of the first and second tabletop portions generally aligned with the end edge of the other of the first and second separable portions such that apron panels adjacent the end edges are spaced from each other to define one dimension of the cavity.

4. The ready-to-assemble table of claim **3** wherein the apron panels adjacent the opposite side edges on the first and second separable portions define a second dimension of the cavity.

5. The ready-to-assemble table of claim **4** wherein when the table is in the disassembled condition with the first and second separable portions stacked, the first and second separable portions are laterally offset relative to each other.

6. The ready-to-assemble table of claim **2**, further comprising a fastener mounted to the first and second separable portions and actuable to selectively couple the first and second separable portions.

7. The ready-to-assemble table of claim 6 wherein the fastener is mounted adjacent the mating edges to couple the first and second separable portions with the mating edges in abutting relationship when the table is in an assembled condition.

8. The ready-to-assemble table of claim 7 wherein when the table is in the assembled condition, the apron panels adjacent the side edges of one of the first and second separable portions abut the complementary apron panels on the other of the first and second tabletop portions, and the table further comprises an auxiliary apron mountable to each set of the abutting apron panels.

9. The ready-to-assemble table of claim 8 wherein the cavity formed by the first and second separable portions when in the stacked configuration is sized to further receive the auxiliary aprons.

10. The ready-to-assemble table of claim 7 wherein the fastener comprises a latch mounted on one of the first and second separable portions and a keeper mounted on the other of the first and second separable portions.

11. The ready-to-assemble table of claim 2 wherein the apron panels on each of the first and second separable portions adjacent the side edges are spaced from the apron panel adjacent the end edge to accommodate a leg between the adjacent apron panels.

12. A table comprising:

a first subassembly comprising a first tabletop and an apron mounted to the first tabletop;

a second subassembly separate from the first subassembly and comprising a second tabletop and an apron mounted to the second tabletop; and

a fastener mounted to the first and second tabletops and selectively actuable to couple the first and second tabletops to form an assembled full table;

wherein the first and second subassemblies are configured to be vertically stacked with the first subassembly inverted and laterally shifted relative to the second subassembly with the aprons adjacent each other to minimize a volume of the disassembled table;

wherein each of the aprons comprises an end panel and a pair of side panels spaced from each other, and

wherein when the table is in the assembled condition, the apron of one of the first and second partial tables abuts the apron on the other of the first and second partial tables with a seam therebetween, and the table further corn rises an auxiliary apron mountable over the abutting aprons to conceal the seam.

13. A ready-to-assemble table comprising:

a split tabletop having first and second separable portions, each of the first and second separable portions having a mating edge, an end edge opposite the mating edge, and opposite side edges joining the mating and end edges;

an apron on each of the first and second separable portions including panels depending from the separable portion adjacent the end edge and the opposite side edges; and

legs for the first and second separable portions to support the split tabletop on a surface;

wherein when the table is in a disassembled condition, the first and second separable portions with their respective aprons can be stacked with one of the first and second tabletop portions inverted so that the aprons space the first and second tabletop portions to form a cavity therebetween sized to receive the legs for packaging of the table, and the first and second tabletop portions are oriented with the mating edge of one of the first and second tabletop portions generally aligned with the end edge of the other of the first and second tabletop portions such that apron panels adjacent the end edges are spaced from each other to define one dimension of the cavity, and the apron panels adjacent the opposite side edges on the first and second tabletop portions define a second dimension of the cavity with the first and second tabletop portions laterally offset relative to each other.

14. The ready-to-assemble table of claim 13 further comprising a fastener mounted to the first and second tabletop portions adjacent the mating edges and actuable to selectively couple the first and second separable portions with the mating edges in abutting relationship, wherein when the table is in the assembled condition, the apron panels adjacent the side edges of one of the first and second tabletop portions abut the complementary apron panels on the other of the first and second tabletop portions, and the table further comprises an auxiliary apron mountable to each set of the abutting apron panels.

15. The ready-to-assemble table of claim 14 wherein the cavity is sized to further receive the auxiliary aprons.

16. A table comprising:

a first partial table comprising a first tabletop and a pair of legs mounted to the first tabletop;

a second partial table separate from the first partial table and comprising a second tabletop and a pair of legs mounted to the second tabletop; and

a fastener mounted to the first and second tabletops and selectively actuable to couple the first and second tabletops to form an assembled full table;

wherein each of the first and second partial tables comprises an apron depending from the respective first and second tabletops and when the table is in the assembled condition, the apron of one of the first and second partial tables abuts the apron on the other of the first and second partial tables with a seam therebetween, and the table further comprises an auxiliary apron mountable over the abutting aprons to conceal the seam.

* * * * *

UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

PATENT NO.	: 9,173,484 B2
APPLICATION NO.	: 14/201190
DATED	: November 3, 2015
INVENTOR(S)	: Mark V. Miller and Douglas P. Krieger

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In the Claims

Col. 5, line 46 (claim 12), "corn rises" should be "comprises"

Signed and Sealed this
Ninth Day of August, 2016

Michelle K. Lee

Michelle K. Lee
Director of the United States Patent and Trademark Office